

DETAILED ACTION

The Amendment filed December 20, 2011 has been entered. Claims 16-36 remain pending in the current Application.

Applicant's statement on the record what the corresponding structure, material, or acts, which are implicitly or inherently set forth in the written description of the specification, perform the claimed function successfully overcomes the 112 2nd paragraph rejection and has therefore been withdrawn.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 16-25, 27, 28, and 31-32 are rejected under 35 U.S.C. 103 (a) as being unpatentable over US 5,477,915 to Park, hereinafter referred to as Park in view of US 5,485,732 to Locatelli, hereinafter referred to as Locatelli.

In reference to claim 16, Park and Locatelli disclose the claimed invention including:

Park teaches a refrigerating appliance, see figures 1 and 2, comprising:
at least two storage compartments (1, 2) thermally insulated from each other and from a surrounding area, see figure 2;

an evaporator (54), which can be cooled independently from an evaporator (60) of at least one other storage compartment, being associated-provided with each storage compartment; and

means for switching the mode of operation of at least one of the compartments between a freezing mode and a non-freezing mode (20, 30, 40, 35A, 45A) see column 2 lines 19-27 .

Park fails to teach wherein the evaporator from one of the compartments (54 or 60) comprises two evaporators connected in series. However, Locatelli teaches that it is known to provide an evaporator (1) in one compartment of a refrigerator comprising two evaporators (2 top and 2 middle) connected in series. Locatelli further teaches that providing rack type series evaporators achieves higher efficiency of the refrigeration circuit and keeps the temperature inside the refrigerator as uniform as possible, see column 1 lines 13-16. Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the evaporator (60) so that it comprised two evaporators connected in series as taught by Locatelli in order to advantageously increase the efficiency of the refrigeration circuit and keep the temperature in side the compartment (2) as uniform as possible.

In reference to claim 17, Park and Locatelli disclose the claimed invention including:

wherein the means for switching the mode of operation also allow switching to a 0°C mode, see Park column 2 lines 19-27 “freezing”.

In reference to claim 18, Park and Locatelli disclose the claimed invention including:

wherein the means for switching the mode of operation are provided for the at least two compartments, (Park 20, 30, 35A for compartment 1 and 20, 40, 45A for compartment 2), see figure 1.

In reference to claims 19-24, Park and Locatelli disclose the claimed invention including:

Park fails to teach one or both of the evaporators being either a wire tube evaporator, a lateral wall evaporator, a no-frost evaporator, or a plate-type evaporator. However, the examiner takes official notice that it is well known in the art of refrigeration to provide an evaporator for a refrigerated compartment of a refrigerator designed as a wire tube evaporator, a lateral wall evaporator, a no-frost evaporator, or a plate-type evaporator. Since Applicant has not disclosed that having one or both of the evaporators being either a wire tube evaporator, a lateral wall evaporator, a no-frost evaporator, or a plate-type evaporator does anything more than provide predictable results and it appears that the refrigerator of Park would work equally well if the evaporators (54 and 60) were of any particular design as long as it provided a cooling effect and fit within the confines of the refrigerator case, it would have been a mere matter of obvious design choice to one having ordinary skill in the art at the time the invention was made, to modify the apparatus of Park so that one or more of the evaporators were either a wire tube evaporator, a lateral wall evaporator, a no-frost evaporator, or a plate-type evaporator and meet the claimed limitations of claims 19-24 in order to provide predictable results.

In reference to claim 25, Park and Locatelli disclose the claimed invention including:

wherein the first and second compartments have insulation of substantially the same thickness, see Park figure 2.

In reference to claim 27, Park and Locatelli disclose the claimed invention including:

Park teaches at least one of the compartments (2) cannot be switched to a freezing mode, but fails to teach the compartment having a thinner insulation than the other of the compartments which can be switched to the freezing mode. However, the examiner takes official notice that it is well known in the art to provide a refrigeration compartment which does not have freezing capabilities with thinner insulation than a compartment which does have freezing capabilities. One skilled in the art would understand that the conductive heat transfer between the interior of the refrigerator and the exterior is dependent upon the temperature difference between the interior and exterior, one skilled in the art would understand that a compartment which is maintained a temperature nearer the external environment would not have as high of a conductive heat transfer rate and would therefore require less insulation than a compartment maintained as a much lower temperature. Further, one skilled in the art would understand that providing thinner insulation would advantageously reduce the cost of insulation and increase the capacity of the storage compartment. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made, to modify the apparatus of Park to include the non-freezing compartment having a thinner insulation than the other of the compartments which can be

switched to the freezing mode in order to advantageously provide for cheaper insulation costs and effectively increase the capacity of the compartment.

In reference to claim 28, Park and Locatelli disclose the claimed invention including:

wherein a compressor (Par, 70) is installed in a recess made in one of the compartments (2), see Park figure 2.

In reference to claim 31, Park and Locatelli disclose the claimed invention including:

wherein the means for switching the mode of operation of at least one of the compartments between a freezing mode and a non-freezing mode includes a regulator (Park 30) and a selector switch (35A).

In reference to claim 32, Park and Locatelli disclose the claimed invention including:

further comprising a second regulator (40 Park) and a second selector switch (45A), wherein each of the compartments is associated with one of the regulators and selector switches to control the mode of operation within the compartment (30 and 35A for compartment 1 and 40 and 45A for compartment 2).

Claims 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Park and Locatelli in view of US 5,377,498 to Cur et al., hereinafter referred to a Cur.

In reference to claim 26, Park, Locatelli and Cur disclose the claimed invention including:

Park teaches the first (1) and second compartments (2) have different volumes but fails to teach the compartments being operated in the same plurality of operating modes.

However, Cur teaches that it is a known method to provide a refrigerating apparatus with independently cooled storage compartments with a plurality of operating modes (-18C, 0C, 5C, see column 1 lines 44-68) and each compartment can be operating in the same plurality of operating modes. Further, one skilled in the art would understand that by providing both of the compartments of Park with the ability to switch between a refrigerating mode, a freezing mode and/or a heating mode, would advantageously increase the flexibility of the refrigerating apparatus. Since all claimed elements all claimed elements were known in the art and one having ordinary skill in the art could have combined the elements as claimed by known methods with no change in their respective functions and the combination would have yielded the predictable result of allowing each compartment of the refrigerator to be operable in a refrigerating, freezing and/or heating mode, it would have been obvious to one having ordinary skill in the art at the time the invention was made, to modify the apparatus of Park so that the compartments were operated in the same plurality of operating modes in order to advantageously increase the operability and flexibility of the refrigerator.

Claims 29 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Park and Locatelli in view of US 3,712,078 to Maynard et al., hereinafter referred to as Maynard.

In reference to claim 29, Park, Locatelli and Maynard disclose the claimed invention including:

Park fails to teach the compressor is installed in a socket unit.

However, Maynard teaches that it is a known method to provide a compressor unit (18) installed in a socket unit (10) of a refrigerator, see figure 1. Maynard further teaches that providing a compressor unit in a socket unit has a very substantial advantage from a manufacturing and servicing point of view, see column 1 lines 41-56. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made, to modify the apparatus of Park to include the compressor installed in a socket unit as taught by Maynard in order to advantageously reduce manufacturing and service costs as taught by Maynard column 1 lines 41-56.

In reference to claim 30, Park, Locatelli and Maynard disclose the claimed invention including:

Park and Maynard disclose wherein the at least two compartments (1 and 2 of Park) are formed in a body which *can be* connected to the socket unit in at least one of a first orientation and a second orientation rotated 180° about a horizontal axis relative to the first orientation. The claim language of claim 30 merely requires that the body of Park can be connected to the socket unit of

Maynard in a first and second orientation. Therefore, the cabinet of Park needs only to be capable of being connected to the socket unit of Maynard in a first and second orientation. Since the body of Park is perfectly capable of being connected to the socket of Maynard a first orientation and a second orientation rotated 180° about a horizontal axis relative to the first orientation, the combination of Park and Maynard meets the claimed limitations.

Claims 33, 35 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Park and Locatelli in view of EP 0541324 to Herbst et al., hereinafter referred to as Herbst.

In reference to claims 33 and 36, Park, Locatelli and Herbst disclose the claimed invention including:

Park teaches a refrigerating appliance, see figures 1 and 2, comprising:
at least two storage compartment (1, 2) thermally insulated from each other and from a surrounding area, see figure 1;
an evaporator (54), which can be cooled independently from an evaporator (60) of at least one other storage compartment, being provided with each storage compartment, wherein each of the storage compartments is operable in a plurality of operating modes of different temperatures, see abstract;
and
a mode switch (35A) cooperable with the evaporator (54) and acting to switch the mode of operation of the compartments between the operating modes.

Park fails to teach the evaporators (54 and 60) of each of the storage compartments (1, 2) being connected in parallel to effect the independent cooling and wherein one of the evaporators from one of the compartments comprises two evaporators connected in series.

However, Locatelli teaches that it is known to provide an evaporator (1) in one compartment of a refrigerator comprising two evaporators (2 top and 2 middle) connected in series. Locatelli further teaches that providing rack type series evaporators achieves higher efficiency of the refrigeration circuit and keeps the temperature inside the refrigerator as uniform as possible, see column 1 lines 13-16. Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the evaporator (60) so that it comprised two evaporators connected in series as taught by Locatelli in order to advantageously increase the efficiency of the refrigeration circuit and keep the temperature inside the compartment (2) as uniform as possible.

Further, Herbst teaches that it is a known method to provide the evaporators of a freezer compartment and the evaporators of the refrigerating compartment arranged in parallel to effect independent cooling of each compartment, see column 2 lines 36-46. Herbst further teaches that when using parallel evaporators in combination with a multiple effect compressor, energy can be saved because only the refrigerant necessary to cool the freezer is cycled between the low level of the freezer evaporator outlet pressure and the high level of the compressor outlet pressure, see column 4 lines 37-46. Therefore it

would have been obvious to one having ordinary skill in the art at the time the invention was made, to modify the apparatus of Herbst so that the evaporator (54) and evaporator (60) were connected in parallel to a multi effect compressor as described by Herbst, in order to advantageously save energy.

In reference to claim 35, Park, Locatelli and Herbst disclose the claimed invention including:

wherein the plurality of operating modes for each of the storage compartments are different, see Park column 2 lines 19-27.

Claim 34 is rejected under 35 U.S.C. 103(a) as being unpatentable over Park, Locatelli, Holtz, and Cur.

In reference to claim 34, Park, Locatelli, Herbst and Cur disclose the claimed invention:

The subject matter of claim 34 is substantially the same as the subject matter of claim 26 and has been addressed in the rejection of claim 26 above.
See rejection of claim 26 above.

Response to Arguments

2. Applicant's arguments filed December 20, 2011 have been fully considered but they are not persuasive.

3. Applicant argues with respect to claims 16 and 33 of that one of ordinary skill would not look to Locatelli to perform a function already performed by Park. This is not found persuasive. Locatelli teaches that multiple evaporators (2) connected in series to form rack evaporators act to achieve a higher efficiency and keep the temperature inside the refrigerator as uniform as possible, see column 1 lines 13-16. Park does not teach rack evaporator nor does Park teach providing for uniform temperature throughout compartment 1. One skilled in the art would immediately recognize that air proximate an evaporator is cooler than air which is further away from the evaporator. This can lead to pockets of cold air or hot spots within the freezing chamber. Locatelli provides a mechanism to prevent the hot spots, which is providing several evaporators as rack evaporators. One skilled in the art would understand that by providing one, or both of the evaporators (52, 54) as a rack evaporator would also result in more uniform temperature distribution throughout compartment 1. Contrary to Applicant's assertion, since Locatelli provides an explicit reason for utilizing rack type evaporators, the combination of Locatelli and Park does not result from hindsight reasoning.

4. Applicant argues that Locatelli does not teach that using a second rack would serve the purpose of changing a refrigerated compartment to a freezing compartment and such a modification would serve to defeat the purpose of the Park structure.

5. This is not found Persuasive. The only modification of the Park structure by Locatelli is changing evaporator (54) so that it is a rack evaporator comprising two or more evaporators in series. Valve 35A could still bypass the modified rack evaporator and utilize cooling only provided by evaporator (52) to be a refrigerator, or valve 35A

could send refrigerant through the modified rack evaporator (54) and be utilized as a refrigerator. The only change to the Park reference by modifying it by Locatelli, is that the temperature within compartment (1) will be more uniform when utilized as a freezer.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CASSEY D. BAUER whose telephone number is (571)270-7113. The examiner can normally be reached on Monday -Thursday: 7-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frantz Jules can be reached on (571)272-6681. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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